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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/051,417	01/17/2002	Bart R. Jones	44563A	9081

109 7590 03/05/2004

THE DOW CHEMICAL COMPANY
INTELLECTUAL PROPERTY SECTION
P. O. BOX 1967
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EXAMINER	
RIDDLE, KYLE M	

ART UNIT	PAPER NUMBER
3748	23

DATE MAILED: 03/05/2004

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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Paper No. 23

Application Number: 10/051,417
Filing Date: January 17, 2002
Appellant(s): JONES ET AL.

Norman L. Sims
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 2 February 2004.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 10 October 2003 was filed after the mailing date of the Final Rejection on 29 September 2003. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement has been considered by the examiner.

(1) Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) Status of Claims

The statement of the status of the claims contained in the brief is correct.

(4) Status of Amendments After Final

No amendment after final has been filed.

(5) Summary of Invention

The summary of invention contained in the brief is correct.

(6) Issues

The appellant's statement of the issues in the brief is correct.

(7) Grouping of Claims

Appellant's brief includes a statement that claims do not stand or fall together and provides reasons as set forth in 37 CFR 1.192(c)(7) and (c)(8).

(8) Claims Appealed

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) Prior Art of Record

The following is a listing of the prior art of record relied upon in the rejection of claims under appeal.

4,985,523	Mochizuki et al.	1-1991
5,375,569	Santella	12-1994

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-7, 11-14, 18-23, 26-32 are rejected under 35 U.S.C. 103. This rejection is set forth in prior Office Action, Paper No. 19.

1. Claims 1-3, 11, 18-21, 26-32 are rejected under 35 U.S.C. 103(a), as being obvious over Mochizuki et al. (U.S. Patent 4,985,523).

Re claims 1, 11 and 18, Mochizuki et al. disclose multiple adhesive sealing compositions with multiple applications that include:

- an engine head and head cover (column 1, line 18);

- a joint between an engine head and a head cover (column 7, line 28);

- providing a seal with excellent heat resistance and oil resistance for use in internal combustion engines (column 7, lines 9-26).

Re claims 26, 28, and 30, as applied to claims 1, 11, and 18, respectively, above, Mochizuki et al. disclose an adhesive sealant with tensile strengths up to 40 kgf/cm^2 (approximately 568 psi) (column 7, lines 29-35).

Mochizuki et al. fail to recite the functional language added to claims 1, 11, and 18, specifically "wherein the adhesive has sufficient cohesive strength to hold the valve cover in place during normal operating conditions." However, Mochizuki et al. disclose the adhesive has a holding strength up to 568 psi, and additionally suggests the use thereof on a valve cover. One having ordinary skill in the art would have reasonably assumed that the suggested adhesive would hold during "normal operating conditions". Also, one having ordinary skill in the art would have reasonably assumed that such holding strength would encompass the above functional recitation. Moreover, such adhesive qualities would negate the need for bolts (re claims 2 and 32) as a securing means to one of ordinary skill in the art.

Re claims 27, 29, and 31, as applied to claims 26, 28, and 30, respectively, above, Mochizuki et al. disclose the engine cover adhesive as cited above, and additionally disclose the use of silicone, acrylic, and rubber resin adhesives and suggests the use of like compounds (column 1, lines 16-24). Given this teaching, it would have been obvious to one having ordinary skill in the art at the time of the invention was made, to have utilized the various adhesives of the applicant as suggested by Mochizuki et al., since the use thereof would have provided numerous selections and a wider variety of compositions for the purpose of securing an engine cover.

Re claims 3 and 19, the adhesive sealing compositions of Mochizuki et al. disclose several cure-on-demand techniques (lines 58-68, column 7).

Re claims 20 and 21, the adhesive sealing compositions of Mochizuki et al. disclose various adhesive methods to include irradiation and heat-curing properties (column 7, lines 1-8).

2. Claims 4-5, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mochizuki et al., as applied to claim 26, above, in view of Santella (U.S. Patent 5,375,569).

Mochizuki et al. disclose engine head covers as cited above, however, fail to disclose the composition, method for securing the covers while curing, or the use of access ports.

Re claim 4, Santella teaches a valve cover (10) that can be fabricated from different materials to include thermoplastics (column 1, lines 60-64 and column 4, lines 26-29).

Re claim 5, Santella teaches a means for securing the assembly to aid in the bonding process (column 4, lines 14-18).

Re claim 7, Santella teaches a multiple access ports on top of the valve cover (Figure 2).

It would have been obvious to one having ordinary skill in the art at the time of the invention was made, to have utilized the teaching by Santella in the valve cover assembly of Mochizuki et al., since the use thereof would have provided a more versatile and effective valve cover assembly.

3. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mochizuki et al., in view of Santella, as applied to claim 4, above, and further in view of design choice.

Mochizuki et al., as modified by Santella, disclose engine head covers as cited above, however, fail to specifically limit the apparatus to a particular composition.

With regard to applicants claim directed to the composition of the valve cover consisting of nylon 6,6, nylon 6 or a mixture thereof with syndiotactic polystyrene, Santella suggests the use of thermoplastic resins, the claimed plastic would be encompassed thereby. Moreover, there is nothing in the record which establishes that the composition of such presents a novel of unexpected result (See *In re Kuhle*, 526 F.2d 553, 188 USPQ 7 (CCPA 1975)).

4. Claims 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mochizuki et al., as applied to claim 28, in view of Santella.

Mochizuki et al. disclose engine heads and engine head covers adhesively bonded together using multiple techniques such as catalysts, irradiation, anaerobically curing, and heat-curing. It, however, fails to disclose the composition, method for securing the covers while curing, or the use of access ports.

Santella teaches that the cover can be composed of plastic or other materials, a means of securing the valve cover for curing purposes, and multiple access ports (see rejections for claims 4-5, and 7, under 35 U.S.C. 103(a), paragraph 3, above). It would have been obvious to one having ordinary skill in the art at the time of the invention was made, to have utilized the teaching by Santella in the valve cover assembly of Mochizuki et al., since the use thereof would have provided a more effective valve cover assembly.

5. Claims 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mochizuki et al., as applied to claim 21, above, in view of Santella.

Mochizuki et al. disclose engine heads and engine head covers adhesively bonded together using multiple techniques. It, however, fails to completely disclose how the mated surfaces should be made to maintain contact until completion of the bonding process.

Santella teaches the use of connecting the valve cover to the head with or without fasteners. It would have been an obvious to one having ordinary skill in the art at the time of the invention was made, to have utilized the teaching by Santella in the engine head covers of Mochizuki et al., since the use thereof would have provided a more effective or alternate means of fastening the engine heads to the engine head covers.

(11) Response to Argument

Applicant's arguments have been fully considered but they are not persuasive.

In the case of *prima facie* obviousness and motivation to modify a reference as argued on page 5 of the brief, last paragraph, Mochizuki discloses adhesive sealants including alkyd resins, systhetic rubber resins, phenolic resins, acrylic resins, silicone resins, and the like (column 1, lines 20-24) substantially the same as disclosed by the applicant with varying adhesive qualities, and one disclosed use is for valve covers. The adhesive qualities having insufficient releasability negates the need for bolts, which are not disclosed. Since these adhesive sealants are disclosed to be used for valve covers, it is obvious that the above listed adhesive sealants disclosed by Mochizuki would have the necessary adhering strength to hold the valve cover on during normal operation without the use of bolts.

Mochizuki does not teach or suggest the use of bolts to hold a valve cover in place as argued on page 7, last paragraph. The disclosed adhesive sealants have the necessary properties to hold a valve cover in place during normal operating conditions, otherwise their use for valve covers would not be functional. Although Mochizuki fails to elaborate on how the valve cover is held in place, the adhesive properties of the disclosed combinations include holding strength for securing the valve cover inplace during operation of the engine. The arguments concerning peel strength continuing at the top of page 8 of the Brief have little merit since there are many examples of strong adhesive bonds that are strong in shear but weak in peel strength, such as component (C) which is a urethane type (meth)acrylate prepolymer (column 3, lines 64-68 with column 4, lines 1-6).

The essence of Appellants' arguments, as described in the middle of page 9, is that no one previously had imagined not using bolts to hold a valve cover in place, and that there is no motivation in the art to do so. Again, Mochizuki discloses adhesive sealants with the necessary

adhesive qualities negating the need for bolts, and as the Appellants' cite in the middle of page 9, adhesives exist to perform such a function. Since Mochizuki discloses the use of such adhesives for valve covers, the motivation for their use without bolts exist.

The use of the Santella reference provides modifications to existing valve covers. The statement that the valve cover is secured by the use of bolts in the middle of page 10 is of little significance since it is the combination of other aspects of the valve cover of Santella with the adhering properties of Mochizuki's valve cover that the examiner presents. In the penultimate paragraph on page 10, Appellants' cite insufficient releasability for some adhesives of Mochizuki, suggesting that these adhesives are unacceptable. Mochizuki discloses different adhesive sealants used for varying purposes, some requiring releasability characteristics, for which the previously mentioned adhesives would be unacceptable, and others not requiring releasability, making them acceptable for adhering valve covers. Moreover, Appellants are on one hand arguing that the adhesives disclosed by Mochizuki will not hold the valve cover in place during normal operation of the engine, and on the other hand arguing that the adhesives have unacceptable peel strengths. If one of ordinary skill in the art cannot remove the valve cover due to insufficient peel strengths and releasability, it would follow that the adhesives disclosed by Mochizuki would hold the valve cover in place during normal operating conditions of the engine. Appellants cannot have it both ways.

Appellants argue that they can find no passage in Mochizuki that states that the valve cover is secured to the cylinder head using an adhesive (page 11, middle paragraph). Mochizuki discloses adhesive sealing compositions with excellent properties to follow the surface of adherends and excellent durability, and particularly suited for adhesion as well as sealing of parts

to include a joint between an engine head and a head cover (Mochizuki, column 7, lines 9-28). This passage clearly indicates that the disclosed compositions have both sealing properties and the necessary adhesive capabilities.

Finally, Appellants continue to argue throughout the brief that no *prima facie* obviousness exists and their is no motivation to combine references. Mochizuki discloses every aspect of the independent claims to include an adhesive sealant with the necessary adhering properties to be used on a valve cover during normal operating conditions, as discussed above. While Mochizuki discloses valve covers held on without the use of bolts, Santella is merely relied upon for the teaching of other well known aspects of valve covers such as multiple access ports, the material of the valve cover, etc. The Examiner believes *prima facie* obviousness exists and that there is sufficient motivation to modify the references.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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Examiner
Art Unit 3748

kmr
March 3, 2004

Conferees: Thomas Denion
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